

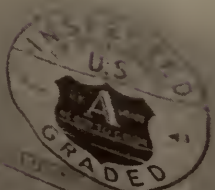
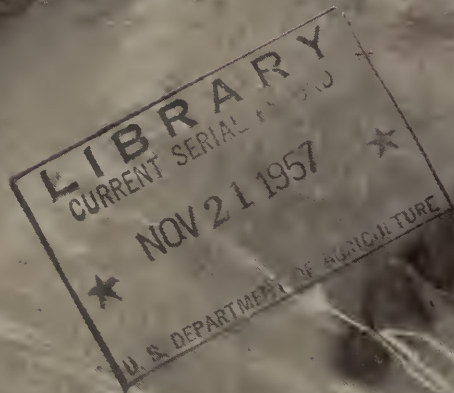
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agricultural marketing

NOVEMBER 1957



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Poultry inspection seen as aid to industry

American citrus can compete in Europe

AGRICULTURAL MARKETING SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

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Editor, Milton Hoffman

Assistant editor, Jeanne Starr Park

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AID FOR Santa Claus

U.S. Grades for Christmas Trees

By George B. Dever, Jr.

GOVERNMENT inspectors will be giving Santa a helping hand this Yuletide season. They'll be inspecting Christmas trees so that dealers can buy their trees by grade rather than by guess.

Trees will be rated U.S. Premium, U.S. No. 1, or U.S. No. 2, depending upon their quality.

U.S. Standards for Christmas Trees come at the request of State and national Christmas tree associations. They will be used for the first time for this season's harvest, with official grades becoming effective about November 1.

Official inspection on the basis of these grades is voluntary and will be available both at shipping points and terminal markets. Applicants will pay a fee for the service.

The dealer who wants to sell only the best trees can now order and be sure of getting just that by specifying the top grade—U.S. Premium.

George B. Dever, Jr., is a marketing specialist with Fresh Products Standardization and Inspection Branch, Fruit and Vegetable Division, AMS.

Such trees will be of at least medium density and normal taper, will have four complete faces (or quarters) and foliage that is fresh, clean, and healthy. They will have not more than minor deformities. When ordering by grade, the dealer will also specify the height of trees he desires.

Dealers whose customers seek less expensive trees than the top grade might want to order U.S. No. 1. The quality of trees in this grade is almost as good as for U.S. Premium. The chief difference is that a U.S. No. 1 tree is required to have only three complete faces.

Noticeable deformities are permitted in this grade if the tree otherwise qualifies for U.S. Premium. The taper of a tree in the U.S. No. 1 grade must be normal in most cases, but may be "candlestick" or "flaring" if the tree otherwise meets the requirements for U.S. Premium.

Trees classified as U.S. No. 2 are those with light density and normal taper (flaring or candlestick taper is

permitted if tree is otherwise U.S. No. 1). Trees must also have two complete faces and foliage that is fresh, fairly clean and free from damage. Not more than minor deformities are permitted unless the tree otherwise qualifies for U. S. No. 1 grade in which case noticeable deformities are permitted.

In addition to meeting the standards and possessing characteristics typical of their species, graded trees must meet two other requirements: (1) the butt of each tree must be smoothly cut and all side branches below the first whorl must have been removed, and (2) unless otherwise specified, the handle of each tree must be approximately $1\frac{1}{4}$ inches long for each foot of tree height.

Should a tree fail to qualify for any of the grades, it is termed a "cull."

Trees which are graded for quality will also be classified for height on the basis of one-foot or two-foot units. For example, the height of a lot of



Tree of medium density is U.S. Premium or U.S. No. 1.

Tree of light density meets requirements of U.S. No. 2.

This illustration shows tree with a noticeable deformity.

Other deformities are double leader and incomplete whorl.

CHRISTMAS TREES

continued

trees may be designated as 4 feet or less, 4 to 6 feet, 6 to 7 feet or 6 to 8 feet, 7 to 8 feet, 8 to 10 feet, or 10 feet and up.

Height, as used in grading trees, is defined as the distance from the top of the "handle" (the base of the tree trunk below the first whorl of branches) to a point at which the longest branch in the top whorl, when bent upward, touches the central leader of the tree.

When a dealer orders a lot of Christmas trees by grade, he is assured that not more than 10 percent, by count, of that lot will fail to meet the grade specified. Likewise, he is assured when he orders trees of a certain height, the lot he receives will not contain more than 10 percent, by count, of trees which fail to meet the height specified.

Another and separate feature of the standards for Christmas trees is the provision for "standard bundles." Under this provision, any lot of trees may be specified as standard bundles when each bundle contains trees of the same species and the number and height of the trees conform to the requirements set up in the standards.

Accordingly, the number of trees in a bundle, if the trees are 2 feet or less in height, is 10 to 12. For trees 2 to 4 feet in height, the required number for a standard bundle is 7 to 8; for trees 4 to 6 feet high, the bundle comprises 4 trees; for trees 6 to 8 feet high the bundle consists of 3 to 4 trees; for trees 7 to 8 feet high, 3 trees are required; for those 8 to 10 feet, the bundle is 2; and only one tree is considered a bundle when the tree is over 10 feet high.

Thus a dealer who orders Christmas trees by grade, by height and by number of standard bundles is able to make his merchandising plans with more assurance that the stock he receives will be what he is expecting.

Additional information and copies of the U. S. Standards for Christmas Trees may be obtained by writing U. S. Department of Agriculture, Washington 25, D. C.

A NATIONAL CONFERENCE ON SCHOOL LUNCH AND DIRECT DISTRIBUTION

THE MEN and women who—as a Federal-State team — operate one of the world's biggest food marketing projects met recently to talk about their business and plan ways to improve its operation.

The occasion was the National Conference on School Lunch and Direct Distribution held August 27-30 at the Hotel Statler in Washington, D.C.

Nearly 200 persons who participate in the operation of these programs in the States, District of Columbia, and the Territories, came into Washington to meet with their working partners in the U.S. Department of Agriculture. The conferees included chief State school officers, school lunch directors, directors of State food distributing agencies, public welfare directors, commissioners of agriculture, and their staffs.

Secretary of Agriculture Ezra Taft Benson welcomed the group to the Nation's capital and praised them as people dedicated to the principle and practice of working to help others. He said, "We in the Department of Agriculture recognize and are justly proud of the significant contributions you have made toward our common goal of using America's food abundance wisely and constructively to improve the health and nutrition of our people."

Under Secretary of Agriculture True D. Morse addressed the opening session. He too discussed the constructive use of surplus foods.

He said we are witnessing a phenomenon in all history—a nation that can supply all its own food requirements and more, while devoting only

a fraction of its resources, manpower, and skills to food production.

As a result, he pointed out, our diets have improved substantially over the past two decades. But there is still need, he said, for continued nutritional education. The food distribution programs present an opportunity to help develop habits of good eating among our young people.

Following their joint meeting in the morning, conferees particularly interested in school lunch and those particularly interested in direct distribution split into separate sessions for the afternoon and Wednesday and Thursday meetings.

Opening the school lunch sessions, E. Allen Bateman, superintendent of public instruction in Utah, discussed the place and purpose of school food services in the total educational program in elementary and secondary schools.

He said the time has come when the main purpose of food service programs in these schools should shift from that of being a "gastro-nomical filling station" to that of being a valuable educational experience.

Oris V. Wells, administrator of the Agricultural Marketing Service, discussed Federal school lunch policies, supported by a panel of USDA people concerned with operation of the program.

The Department's interest in school lunches stems from a basic belief, he said, that good dietary levels will provide the most desirable, stable domestic food market for agricultural producers. A sound school lunch program can help to improve the diets and food habits of children and

thus lead to better diets and better food habits for all our people.

Mr. Wells said he had been convinced for some time that more information is needed to evaluate school lunch progress. He reported that AMS research people are now engaged in a survey of the current status of school food services. A brief review of the preliminary report of this survey followed.

On succeeding days, school lunch participants in the conference split into four groups to discuss various phases of school lunch operations.

One discussion group considered long-range needs and financing of the

the National School Lunch Program and the Special Milk Program. The group agreed that means of improving participation in schools should be explored, but noted that the percentage of participation alone does not determine whether an individual school is operating an efficient program.

The fourth group considered personnel problems in recruitment, training, and certification of school lunch workers. It said shortage of qualified personnel is a real problem. It then outlined some of the reasons for the shortage and suggested some improvements that would help to gain and keep good workers.



Under Secretary of Agriculture True D. Morse addresses opening session of the conference.

program. It agreed that the probable increase in program participation is likely to create difficulties in financing the program in the years ahead and urged that planning programs be initiated now to meet future needs of the total school food service program.

Another discussion group considered the quality of local supervision in terms of the techniques and materials being used.

A third group discussed the factors affecting participation in both

Meanwhile, the conferees interested in the direct distribution program—under which foods are donated for use in the school lunch program, as well as by needy persons in this country and abroad—met for separate discussions.

Roy W. Lennartson, Deputy Administrator of AMS, opened this half of the conference with a review of the history of the direct distribution program. He said the program has now truly come of age, recalling that it was passage of P.L. 320 with its

“Section 32” on August 24, 1935, that established direct distribution on a full scale.

Mr. Lennartson noted that the intervening 21 years have been years of great importance in world history and that program developments have been tied closely to national developments over an era when the United States has assumed the stature of a leading world power.

He noted that in the last four years nearly 6½ billion pounds of food have moved into constructive use through the program. This tremendous achievement, the Deputy Administrator declared, has helped to buy time for other farm programs—giving them opportunity to make their contribution to the solution of farm problems.

The program, he said, has had an important effect on the expansion of farmers’ markets by using today’s surpluses to develop markets for the future.

Don Paarlberg, new Assistant Secretary of Agriculture, reviewed the objectives of the direct distribution program.

A vital point, he said, is that it means better school lunch programs by improving the quality of meals. Another point is that it makes constructive use of surpluses by supplementing the diets of the needy. The program also serves to bolster current markets by providing outlets for more foods.

The direct distribution program also develops future markets, the Assistant Secretary pointed out.

In a panel discussion which followed, a commissioner of education told how he uses donated foods to strengthen the school lunch program in his area.

Dr. Byron T. Shaw, Administrator of the Agricultural Research Service, addressed the conferees in their joint closing session. He described the role of research in the agricultural programs of the day, with particular emphasis on research’s application to problems of food and nutrition.

Martin D. Garber—who as director of the food distribution division of AMS is in charge of both the National School Lunch Program and the Direct Distribution Program—closed the conference.

THIS YEAR'S FARM PRODUCTION



MARKETING of the nation's food supply begins with production, and production for 1957 is likely to equal the largest in history.

Although there have been drought in some areas and too much rain in others, the generally good weather during 1957 has kept production high for most crops in most areas.

According to the Crop and Livestock Reporting Board, Agricultural Marketing Service, overall crop production in 1957 is likely to match the previous high years of 1948 and 1956.

Yield per acre is setting records. This explains high production in spite of substantial acreage withdrawals, notably for the Soil Bank program.

The October 1 Crop Summary estimates 1957 sorghum grain production at over 500 million bushels, more than twice last year's crop and over three times as large as the 10-year average. Increasing production from sorghum hybrids is something for marketing men to note. But acreage planted was also at a record here; pump irrigation was important; and moisture conditions favorable.

Corn exceeded 3.3 billion bushels, about 4 percent under 1956 figures but well above average.

Sugar beets also promised to set a new production record—thanks, chiefly, to larger acreage allotments. Tonnage could be as much as 7 percent above the 1954 record.

In contrast, peanut production looks to be slightly below that of 1956. Rice figures at the smallest crop since 1950.

Soybean production will hit a new record, despite a long siege of unfavorable weather at planting time in some important sections.

Bad disease conditions in the South have held oats production at about 1.3 billion bushels.

Altogether, corn, oats, barley, and sorghum grain—the feed grains—were up a little, production-wise, from 1956.

All wheat is estimated at somewhat more than 900 million bushels, about 7 percent under 1956. There are prospects of a cut in the 1958 carryover.

1957 is an extremely good hay and pasture year. For marketing men, this means ample supplies of forage and feed crops for cattle, hogs, and sheep. Hay is up about 12 percent despite dry weather in the East and South.

The hay-pasture picture also has a direct effect upon milk prospects. Milk production is running at better than record clip and may exceed last year's all-time high.

Deciduous fruits are slightly below 1956 and 1947-56 averages. Apples, pears, plums, and sour cherries are above average production, but this was more than offset by reductions in peaches, grapes, apricots, sweet cherries, and prunes.

Substantially down—about one-eighth—is the tonnage of almonds, filberts, walnuts, and pecans. Filberts is the only item that increased sharply.

Production of fall vegetables is smaller than in 1956 and just above average. Biggest reduction is in cabbage where acreage is down. There will also be considerably fewer carrots. Early fall lettuce production, however, may be larger because of sizable acreage increase.

Tonnage of eight important vegetables for commercial processing may be nearly a fifth below 1956, though perhaps an eighth above average.

Slightly more eggs were produced so far this year by slightly fewer layers. But less pullets not of laying age are on hand than usual.

The wage factor in retailing meat in 4 cities

By Imogene Bright

The price of meat has a lot to do with how much meat we put on the family table. One of the costs reflected in the consumer price of meat and included in the margin or markup by retailers is the cost of labor in retail meat stores.

In 1956, AMS took a 4-city survey of meat departments in retail stores. This was a part of the research on farm-to-consumer marketing margins and costs which is being done with funds appropriated by Congress solely for costs and margins research. The study placed the emphasis on labor costs—more specifically, the “wage bill”—direct wage payment for a defined period.

Forty-six grocery stores located in San Francisco, Atlanta, Chicago, and Columbia (S.C.) furnished data. Stores varied in number of paid employees, hours open, and estimated annual sales volume in meat sales and total sales. They also differed in employment practices, hours worked, payment of premiums for overtime work, methods of rescheduling work, use of part-time workers, and payment of fringe benefits.

Eighteen of the 46 stores were units of a chain organization; 28 were independently owned and operated. Twenty-seven had collective bargaining agreements with labor unions.

Wage rates in the 4 cities differed markedly. Rates were highest in San Francisco and Chicago, lowest in Columbia. Rates in Atlanta were between the two extremes. Differences were noted within the cities. This variation was more noticeable in Columbia and Atlanta—areas where few stores were operating under labor-management agreements.

Wage bills varied with the kind of employees hired (journeyman, apprentice, etc.), the number of employees hired, hours worked, wage rates paid, and premium payments. On a man-hour basis, the wage bill for stores in San Francisco and Chicago contrasted sharply with stores in Columbia and Atlanta. Average meat department wage bill per man-hour for stores located in each city was: San Francisco, \$2.58; Chicago, \$2.44; Atlanta, \$1.59; Columbia, \$1.10.

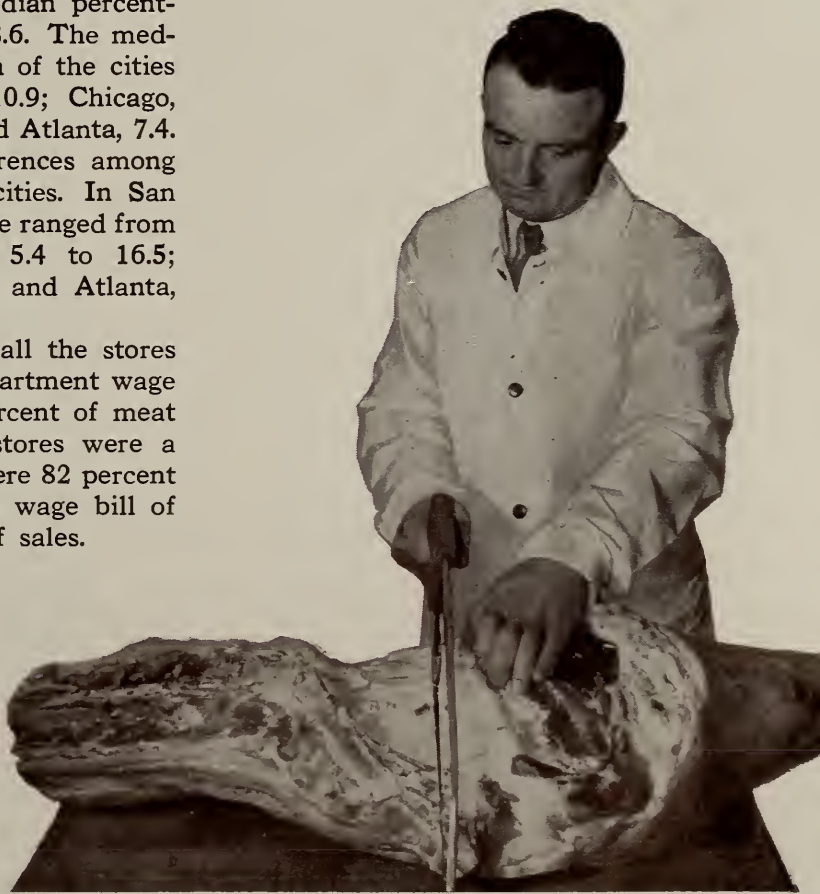
In the study, the meat department wage bill was shown as a percentage of meat sales. The median percentage for all stores was 8.6. The median percentage for each of the cities was: San Francisco, 10.9; Chicago, 10.1; Columbia, 6.3; and Atlanta, 7.4. There were wide differences among stores in each of the cities. In San Francisco the percentage ranged from 7.4 to 14.9; Chicago, 5.4 to 16.5; Columbia, 5.6 to 43.3; and Atlanta, 4.1 to 10.6 percent.

Over 90 percent of all the stores visited had a meat department wage bill of less than 13 percent of meat sales. San Francisco stores were a moderate exception—here 82 percent of stores visited had a wage bill of less than 13 percent of sales.

Stores having wage bills over 14 percent of sales had an estimated total yearly grocery and meat sales volume for each store of under \$500,000. Stores having wage bills of less than 13 percent of sales reported estimated yearly sales of larger volume. About three-fourths of the stores reported yearly sales volume of all products of less than \$1,000,000. These stores had a wage bill ranging from 5 to 13 percent of meat sales.

Volume of sales was the most important factor in determining the ratio of the wage bill to sales. For stores reporting an estimated yearly meat sales volume of under \$100,000, the median wage bill shown as a percentage of sales was 12.4 percent; with a volume of \$100,000 to \$199,999, the median percentage was 9.4; with a volume of \$200,000 to \$399,999, the median percentage was 7.5 percent; and with a volume of \$400,000 and over, the median percentage was 7.3 percent.

Imogene Bright is an agricultural economist in the Market Organization and Costs Branch of the Agricultural Marketing Service.



AMERICAN CITRUS CAN COMPETE IN EUROPE

European buyers like the flavor of American citrus fruit. Extensive studies of both California and Florida citrus under actual commercial shipment to Rotterdam have convinced veteran AMS citrus quality experts that American citrus can meet the competition of foreign citrus—provided we can get it overseas in good shape. The success of the present bid for citrus exports depends upon three major factors: shipping fruit of high keeping quality; following known pre-cooling and decay inhibiting procedures; and using good handling methods.



FLORIDA CITRUS

By J. R. Winston

FLORIDA produces well over 20 percent of the world's orange crop and nearly 75 percent of the grapefruit. And yet Florida citrus has not gained an important place in foreign markets.

Since the 1954 freeze in Spain, however, the shipment of Florida citrus to Europe has gone from an average of 400,000 boxes annually to 1,750,000 boxes last year.

Can this increased market in Europe be sustained and widened? The answer is yes, providing the Florida citrus industry faces up to some serious problems and does something about them.

During 1954 and 1955, citrus specialists of the Agricultural Marketing Service, in cooperation with the Florida Citrus Commission, the Florida Citrus Experiment Station, and the Foreign Agricultural Service, conducted shipping tests on nine shipments of Florida citrus to Rotterdam. The industry wanted to know how the fruit should be handled to assure sound delivery to European markets and provide a reasonable shelf life after arriving.

To make the tests applicable to actual conditions in the industry, the lots studied included fruit which had received the usual packinghouse treatment. It had been graded and packed in the normal manner in 24 widely separated packinghouses. Research personnel went along on two of the voyages.

A study of the condition of the fruit as it arrived in Europe led AMS researchers to the following conclusions:

- Standards for exported fruit need to be tightened considerably by reducing permissible amounts of scars and blemishes, and eliminating all fruit not well colored.

- Coloring should be done with more care. Heavy color applications often caused the fruit to develop a dull, tired look. Rind breakdown and decay were more prevalent in colored fruit.

- Refrigerated ships are not de-

signed or equipped to cool warm fruit rapidly. Adequate precooling before loading aboardship is essential.

- Adjustments need to be made in holds of ships to provide a more even distribution of air through the load.

- Quality of cartons needs to be improved. Some of the cartons that have been used for shipping Florida citrus overseas did not hold up well.

- Florida grapefruit does not lend itself to long storage even at preferred temperatures. Low temperatures cause pitting and green mold rot, while high temperatures favor stem-end rot. Grapefruit should be

stored at 50° to 55° and for not more than 3 weeks.

- When oranges are held after picking for varying lengths of time up to six weeks, 38° is a desirable holding temperature.

- A combination of Dovicide-A plus Hexamine, applied to the fruit, wrappers, or cartons, is more effective than diphenyl in controlling green mold and stem-end rot. Ethyl thionocarbamate, a new compound in the field of fruit protection, is much more effective than any of the others. None of the decay inhibitors can be successfully substituted for refrigeration.

CALIFORNIA CITRUS

By E. M. Harvey

CALIFORNIA citrus has already met with striking success in Europe. Most of the present problems involved in shipping California citrus overseas can be met by more careful selection and improved handling.

Thorough precooling of the citrus before loading aboard ships is the most urgent need.

AMS citrus quality specialists conducted six overseas shipping tests from April to August 1955, studying shipping temperatures and other conditions during the voyages from Los Angeles to Rotterdam. The industry especially wanted data on Valencia oranges packed in cardboard cartons, but the tests also included shipments of lemons and grapefruit.

The fine general appearance and high quality of California oranges and lemons arriving in Europe may be a matter of much satisfaction. Many people are amazed that the fruit can endure so well the long series of handlings involved during the five or more weeks from the packing houses to Europe.

And yet, too much export fruit does not get over the handling barrier successfully. This is the fruit for which we need remedial measures if stable expansion of citrus exports is to be attained.

In general, the quality maintenance specialists found that exported citrus followed three patterns.

In the most common and desirable situation, the fruit arrives with excellent appearance and negligible decay, and its high quality is maintained through a reasonably long holding period. This can be expected when early-season fruit has been carefully selected for shipment, and handling procedures have followed tried and true methods.

In the second situation, the fruit arrives in Europe with poor appearance and heavy decay. This is bad, but the appearance of the fruit often warns the receiver that the fruit will not keep well, and he acts accordingly.

The third situation can be even more serious than the second. The fruit arrives with good fresh appearance and negligible decay, but its quality deteriorates rapidly—perhaps after the receiver has put it aside for later sale.

From the knowledge now available, the following conclusions are drawn:

- Citrus lots intended for export should be more carefully selected.

- Technical aid might be extended to European receivers to assist them in better selection of lots that are safe for holding.

- Stowage patterns can be improved to provide more effective and uniform air circulation aboard ship.

- Improvement in containers is still desirable. Greater strength and more ventilation is needed.

- Adequate precooling before loading is essential.

J. R. Winston is senior horticulturist in the Quality Maintenance and Improvement Section, AMS, located in Orlando, Fla.

E. M. Harvey is physiologist in charge of the Quality Maintenance and Improvement Section, AMS, located in Pomona, Calif.

On January 1, 1959, inspection for wholesomeness will be required for all poultry and poultry meat moving in interstate or foreign commerce.



POULTRY INSPECTION LAW



Inspection law seen as beneficial to industry



Individually wrapping turkeys in plastic film. Notice U.S. inspection seal and grade marking.

Federal inspector makes an examination of live chickens before they are slaughtered at plant.

By Hermon I. Miller

What will be the effect on the poultry industry of the law which makes inspection compulsory?

Those in the industry and USDA poultry specialists feel that the "Poultry Products Inspection Act" will be beneficial to the poultry business, just as the "Meat Inspection Act," put into effect 50 years ago, has been to the meat industry.

The inspection act, made law in August, becomes fully effective on January 1, 1959, when inspection for wholesomeness will be required for all poultry meat moving in interstate or foreign commerce, or in designated major consuming areas.

At present it is estimated that about half the poultry in interstate commerce is being inspected under the voluntary inspection program of the Agricultural Marketing Service, the USDA agency which will also administer the new law.

Officials of the Poultry Division of AMS say that the regulations under which compulsory inspection will be conducted will undoubtedly be substantially the same as those now in use for the voluntary program.

Of course, there will of necessity be certain changes—the processor, for instance, will not be required to pay a fee for compulsory inspection since these costs will be borne by the Federal government. The new regulations will be available to the industry soon.

Processors who are eligible may apply for inspec-

tion under the new law in 1958. Upon receiving the service, they are then subject to all of the provisions of the law.

While, in general, poultry moving in interstate commerce must, after January 1, 1959, be inspected and carry the official inspection mark, there are some exceptions.

The law does not regulate movement of live poultry and does not apply to a processor who markets only within his own State, unless he operates or markets in a designated major consuming area.

Farmers who process only poultry raised on their own farms and sell it directly and only to household consumers, restaurants, hotels, or boarding houses for serving in their own dining rooms are exempt, even if these sales are across State lines.

Exempt to some extent, too, are processors and handlers of poultry and poultry products prepared as required by recognized religious dietary laws.

A retail dealer whose only processing operation consists of cutting up poultry carcasses in his own store for sale there is not considered as subject to the law, though a chain grocery which conducts the same operation for distribution in interstate commerce to a number of its stores would, on the contrary, not be considered as exempt.

Those who process or market poultry in designated major consuming areas, unless otherwise exempt, will be considered as interstate dealers.

Under the terms of the law, these areas—major population centers—will be designated by the Secretary of Agriculture following application by local or

Hermon I. Miller is Director of the Poultry Division of the Agricultural Marketing Service.

POULTRY INSPECTION

continued

State officials or groups and subsequent public hearings.

If, after considering the information brought out in such a hearing, the Secretary then decides that poultry and poultry parts are handled or consumed in the area in such volume as to have an effect on the movement of inspected poultry in interstate commerce, he may "designate" the area and prescribe that the law become applicable to poultry moving or handled in that area.

Notice of his decision is then published in the Federal Register and becomes effective six months later.

For poultry moving in interstate commerce or in these designated areas, the law provides specifically that:

1. Qualified inspectors make bird-by-bird examinations of the poultry carcasses at processing plants.

2. Inspection of poultry before it is slaughtered be conducted at processing plants to the extent that the Secretary deems necessary.

3. Poultry or poultry parts found to be unwholesome or adulterated be condemned for human food purposes and destroyed.

4. Poultry slaughtering and processing plants be constructed, equipped, and operated in accordance with good sanitary practices. These requirements will be spelled out in the regulations.

5. Shipping containers of any poultry meat inspected bear the official inspection mark and the approved official plant number. Each individual container must also carry the name and address of the processor or distributor, the name of the product, the net weight, and in some cases a statement of ingredients including any artificial flavors, colors, or preservatives used. These labels must be approved by the USDA.

6. Processors and handlers keep records of their transactions and hold them for a period of two years.

It is expected that the law, intended primarily as a consumer protection measure, will have a beneficial effect for the entire poultry industry.

The assurance of wholesomeness which the consumer receives should help increase his desire for poultry meat and may result in an increase in per capita consumption of poultry. These factors may also help to open up new markets for export.

The law will also benefit processors by tending to equalize competition and help to bring about a more uniform price structure.

Those who wish to apply for inspection may find out what requirements they must meet to be eligible when the rules and regulations formulated to carry out the provisions of the "Poultry Products Inspection Act" are issued.

How Poultry Processors Can Obtain Inspection Service

It is the responsibility of each processor who is required to have inspection service under the "Poultry Products Inspection Act" to make application for the service. This application must be made on a form furnished by USDA. Application forms and regulations governing the inspection may be obtained from the Inspection Branch, Poultry Division, AMS, U.S. Department of Agriculture, Washington 25, D. C.

Each processor must also submit to the Inspection Branch copies of drawings and specifications showing the floor plan and other features of the plant and premises. Construction or remodeling of buildings, facilities or premises should not be initiated until the drawings and specifications have been approved by the Poultry Inspection Service.

In addition, copies of all labeling to be used on inspected poultry and poultry products must be submitted for approval by the Poultry Division Inspection Branch.

For purposes of the "Poultry Products Inspection Act," the United States has been divided into four geographic areas.

Area 1, comprising the Atlantic States, has its office in Philadelphia. Included in this area are Connecticut, Delaware, Florida, Georgia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, and West Virginia.

Area 2, with its main office located in Chicago, is made up of East Central States. They are Alabama, Arkansas, Illinois, Indiana, Kentucky, Louisiana, Michigan, Mississippi, Missouri, Ohio, Tennessee, and Wisconsin.

Area 3 has its headquarters in Des Moines. West Central States that come under this jurisdiction are Colorado, Iowa, Kansas, Minnesota, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, and Texas.

Area 4, made up of the Western States, has its office in San Francisco. States supervised are Arizona, California, Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming.

Each area has a supervisor who will assist applicants in planning for inspection and will explain how drawings and specifications should be prepared. Station supervisors will also participate in this work. However, such services are performed only on request and when travel is involved, a charge is made.

After the drawings and specifications have been approved, building, remodeling, and installations of facilities and equipment should be made, if these are deemed necessary. When the plant is ready, the area supervisor will make a survey of the plant and premises to determine if the plant is constructed and facilities installed in accordance with the approved drawings and specifications, and the regulations of the Secretary.

BALL HITCH and FLEXIBLE HOPPER

By Gilbert E. Yost

Agricultural Engineer, Red River Valley Potato Research Center, East Grand Forks, Minn.

TWO NEW mechanical devices—a ball hitch and a flexible hopper—work together to decrease the distance potatoes drop when moving from one conveyor to another.

The ball hitch, with its pivotal feature, holds the two conveyors together at that point. The flexible hopper bridges the gap between, bringing the conveyors closer together and reducing the chance of injury to the potatoes.

Both were developed by AMS agricultural engineers at the Red River Valley Potato Research Center in East Grand Forks, Minn.

An ordinary trailer ball and socket serves as the hitch. Used as a pivot point between conveyors, it allows the conveyors to swing both horizontally and vertically.

In emptying potatoes from truck to bin, for example, the hitch keeps the hopper molded to the truck conveyor, despite the decreasing load. One-inch standard black pipe and 2" x 5/8" x 1/8" channel iron is used to make the frame.

The frame of the flexible hopper is made of 1/2" round iron or 3/8" black pipe and 1 x 1/8" strap. The two sides and back are constructed of three-ply belting which is rigid enough to hold the potatoes yet flexible enough to conform to connecting parts.

Two springs are fastened from the "T" iron on the back of the hopper to plates on the corresponding sides to maintain the shape of the hopper. These springs hold the sides so that either can flex separately, or both sides and back can flex as a unit.

It is this flexibility of the hopper, together with the pivotal position of the ball hitch, that makes the new equipment adaptable to most potato handling needs. By decreasing the drop distance between conveyors when potatoes are moved in and out of the bins, the ball hitch and flexible hopper help reduce potato injury and aid in bringing a better quality product to the market.



New hitch and hopper lessen gap between two conveyors. Note how side of hopper molds to the truck conveyor.



Hopper can flex as unit to conform to conveyor.

IT PAYS TO KNOW THE PRICE

By Albert J. Doub, Jr.



IN MOST business transactions there is only one chance to make a profit. But on the tobacco auction markets, opportunity knocks again for producers who do not want to accept the first price bid for their tobacco. Not only can they reject the first offer made, but they can have their tobacco re-auctioned and try for a better price.

How do producers know what their tobacco is actually worth? How do they know whether or not to ask for a "resale"? It's easy when they consult the USDA market news reports.

Available on a daily, as well as a weekly and a seasonal basis, market news information is collected and distributed by USDA's Agricultural Marketing Service, in cooperation with a number of the State depart-

WHEN wheat leaves the field at harvest time it is practically free of insects. Yet much of it may become infested during storage and transportation.

Millers aren't too concerned with insects that feed externally on the grain. They can be removed easily enough before milling. The industry is, however, concerned with insects that feed within the wheat kernel—so is the Agricultural Marketing Service.

That's why its Marketing Research Division has undertaken considerable research on insect control. One project has been the preparation of a USDA agricultural handbook by Dr. R. T. Cotton, recently retired AMS entomologist. This book will provide the industry with information on the control of insects in flour mills.

Of course, the ideal thing for millers to do would be to buy a year's supply of wheat at harvest, place it

in clean storage, and fumigate it. This is almost impossible for most mills. Their storage space is too limited.

The next best thing for them to do is to test their wheat thoroughly before buying. There are a number of testing methods. An experienced man can usually determine the degree of infestation by looking at a sample, although the X-ray and flotation methods are more accurate.

Incoming grain is usually the chief source of insect infestation in the mill. The degree of infestation varies with the location of the mill and the source of grain. Some mills have more trouble than others. Many have to draw their wheat from many sources. This complicates their insect problem.

Other sources of infestation in the mill are blending stocks from other

mills, returned flours, second-hand machinery, accumulated feed stocks, and nearby elevators.

Insects will breed in any location where accumulations of flour, grain, or other milling stock remain undisturbed. If control is to be successful, these accumulations must be removed or treated with fumigants.

Conditions in the flour mill system are ideal for insect development. Some infestation will show up in every mill in spite of precautionary measures.

An active control program must be established and maintained in every mill to hold down the insect population. Insecticidal sprays are a useful part of mill sanitation programs, but they must be used carefully.

INSECT CONTROL IN

ments of agriculture. Trading is "covered" for all classes and types of tobacco sold at auction.

Reliable, specially trained Government market reporters, operating out of 2 permanent field offices of the Tobacco Market News Service and its 8 seasonal offices, report on sales covering 177 tobacco auction markets. The information they gather is carefully assembled and compiled into accurate, unbiased reports.

Sales data are collected by these market news recorders from the different markets selling the same type of tobacco and are combined in the field offices for publication in separate reports covering the marketing area for each tobacco type.

There are a number of ways growers may obtain these tobacco market news reports. They may watch for the reports in the newspapers, or ask to receive them by mail from the nearest Government Tobacco Market News Office. Sometimes farmers prefer to rely on radio or television market broadcasts.

But the same information can be obtained right on the sales floors of any of the tobacco auctions. These Government reports tell at a glance what each grade of tobacco sold during the previous day averaged at auction. The latter method of distribution has proved one of the most popular ways of getting tobacco market news into the hands of those needing and using it. Of the 1 $\frac{1}{4}$ million copies of published reports that went to the public during the last marketing year, 80 percent of the reports were supplied direct to growers from auction market sales floors.

It is here that the usefulness of the tobacco market news reports really comes into play. Here at the auction market, while trading is still going on, the farmer must decide quickly whether he is getting a high enough price for his tobacco—in line with that being paid for other tobacco of the same quality.

Of course, just knowing what prices are being paid cannot benefit the farmer unless he can put them on

a realistic basis and apply them to his own tobacco. If they are to be significant to him, he needs to know how the quality of his own tobacco measures up to the quality of that mentioned in the official price reports.

This is where the USDA's Tobacco Inspection Service comes in. It provides this information. On the day that the tobacco is to be auctioned, it is examined by a Government inspector who determines its grade.

The certified grade on the tobacco warehouse slip and the official price reports help growers decide whether to accept or reject their bids.

When properly used, the Tobacco Inspection and Market News Services will go a long way in preventing losses to growers that occur when tobacco is sold below the current prices being paid for a particular quality at auction. Providing a measuring stick and a price guide, these services go hand-in-hand in bringing benefits to growers.

Albert J. Doub, Jr. is an economic and program analyst in the Tobacco Division of AMS.

FLOUR MILLS

When mills become heavily infested, simple sanitary measures are not enough. More effective treatments, like fumigations are necessary.

The fumigation of mills and warehouses is a specialized operation. Its success is dependent on the care and skill with which it is accomplished. Because of this and the danger of fumigants, it is usually best to have the job done by professional fumigators.

In the future, radiant energy may be used to control insects. However, high costs, upkeep and operation, and capacity limitations make its use doubtful now.

Fumigation of mills and warehouses is a specialized operation. It is best to have this job done by a professional.





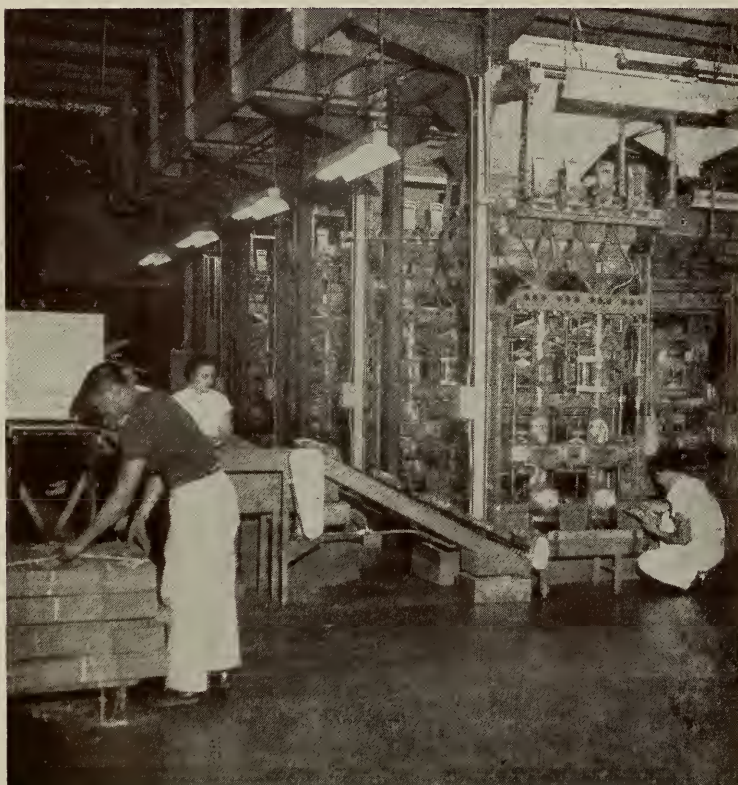
Lift truck operator unloads boxes of bulk almonds at receiving plant.



View of bulk storage bins with processing plant in background.

Marketing Orders for

By Robert R. Boersma



Machines like these are used to bag inshell walnuts. The bags are put together, filled, weighed, and sealed automatically in one operation.

FEDERAL MARKETING agreement and order programs are in effect this season for three principal tree nuts—almonds, filberts, and walnuts. The walnut order went into effect in 1948; filberts came in the following year; and almonds in 1950.

These marketing programs were adopted by producers as a means of improving prices. Since these orders were adopted, prices have tended to stabilize at profitable levels. Growers attribute much of this gain to better management in the marketing of their crops.

Some of the problems in the tree nut industries result from the fact that yield varies widely while acreage tends to be fixed. Since six to ten years are needed to establish an orchard, rapid adjustments in acreage cannot be made.

Due to the wide variations in yields, large surpluses may develop in a year of high production even though average production is not sufficient to cause a chronic surplus. Marketing orders are designed to reduce the effect of these occasional surpluses.

Marketing orders are administered by boards of industry representatives.



Interior view of receiving warehouse shows sacked and binned almonds.



Women at work sorting almonds in large California processing plant.

Tree Nuts

*Almonds, filberts, and walnuts
now under Federal marketing programs*

Most policy decisions made by these boards are subject to the approval of the Secretary of Agriculture.

Early season estimates indicated that large crops of almonds and filberts will be produced this year, but a normal crop of walnuts is expected.

ALMONDS

In some years more almonds are produced in California than can be sold in normal domestic markets. However, since industrial users who buy on sample use a large part of the almonds consumed in this country, and since the handlers selling through retail markets are interested in maintaining their reputations and brand names, quality has not been a serious problem. Therefore, the almond marketing order is limited to regulating the quantity of almonds sold in normal domestic markets.

In years when surplus regulations are in effect, each handler is required to withhold a certain quantity of almonds. How much is determined by applying the surplus percentage to the quantity he has acquired. He may dispose of these almonds only in authorized surplus outlets such as export, almond oil, and almond butter.

Salable and surplus percentages are established each year by the Secretary of Agriculture after consideration of recommendations of the board and other pertinent information. The surplus percentage for this season is 30 percent.

This regulation is intended to provide a supply of almonds in the normal domestic markets of about 42 million pounds.

FILBERTS

The order regulating the marketing of inshell filberts grown in Washington and Oregon is somewhat more complex than the almond order. This order provides for grade regulation and pack specifications in addition to volume regulations.

Handlers are prohibited from shipping inshell filberts which do not meet the minimum standards of size and quality specified in the order. The maintenance of good quality tends to encourage consumer confidence and thereby increase demand.

In addition to meeting the minimum standards, filberts must be sorted by size and quality so that they conform to one of the standard packs used by the industry. This

practice provides a uniform basis for pricing the various packs of filberts.

In years of heavy production, handlers may be required to withhold a portion of the filberts they received from the inshell market. Filberts withheld in compliance with these orders may be shelled or exported.

A surplus percentage of $33\frac{1}{3}$ percent has been established for the current filbert marketing season. This regulation is intended to provide in the normal domestic markets a supply of inshell filberts of approximately 11 million pounds.

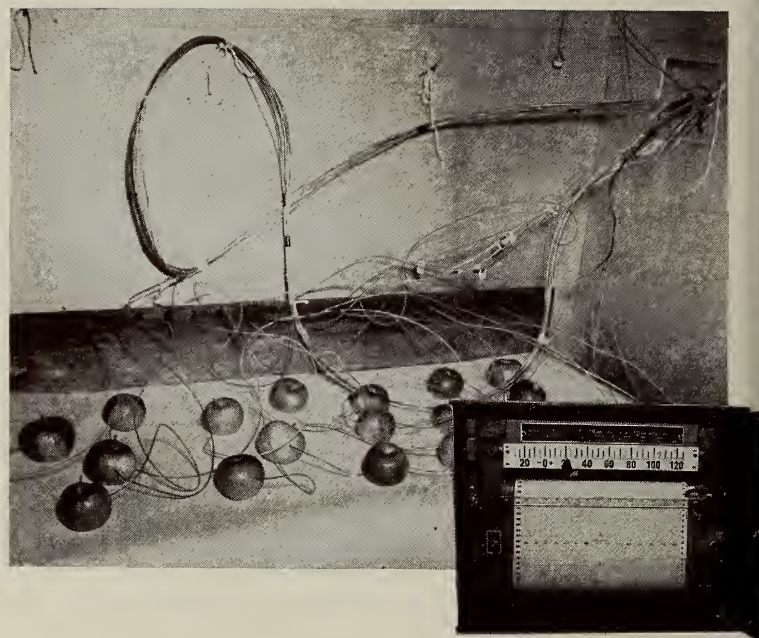
WALNUTS

The order regulating the handling of walnuts grown in California, Oregon, and Washington is similar to the filbert order except that it provides for minimum standards of quality for shelled walnuts and control of an overall surplus of walnuts. It also contains inshell provisions similar to those in the filbert marketing order.

Although the present order was issued in 1948, the walnut industry initially adopted a program of this type in 1933.

Robert R. Boersma is an agricultural economist in the Specialty Crops Branch, Fruit and Vegetable Division, AMS.

Freezing Points for Fruits, Vegetables and Florist Stocks



GROWERS, cold storage operators, and others involved in marketing fruits, vegetables, and florist stocks are always concerned about freezing damage. They know there's a good chance that products they handle may freeze in the field in cold weather or during marketing.

That's why a soon-to-be-released marketing research report on "Freezing Points of Fruits, Vegetables, and Florist Stocks" can serve as a valuable guide for those who handle these items.

AMS horticulturist T. M. Whiteman of the Plant Industry Station, Beltsville, Md., has collected freezing point data for about 600 different products and varieties. Included are 37 kinds and varieties of citrus fruits, 17 apple varieties, and 11 varieties of potatoes.

Standard commercial varieties and new varieties were tested. Thousands of samples were used to determine the freezing points.

In a number of cases, freezing points were determined for different parts of the same commodity: for example, the peel and flesh of bananas, tops and roots of beets, flesh and rind of citrus fruits, and the crowns and roots of strawberry plants.

High, low, and average freezing points were determined, but the highest freezing point is considered the

best guide for avoiding freezing injury.

Freezing points vary for different kinds and varieties of products. The lowest freezing point among the common fresh fruits was 25.5° F., for Seckel pears. Soft-ripe Booth 7 avocados had the highest freezing point, 31.5°. Of the fresh vegetables, horseradish roots had the lowest freezing point, 28.1°, and broad-leaved endive had the highest, 31.9°.

The freezing points of fruits tended to be lower than those of vegetables, probably because fruits have a higher soluble solids contents, principally sugars.

In some cases freezing points of different varieties of the same product vary considerably. This is true of oranges. In the 14 varieties tested, freezing points of the flesh ranged from 27.4° to 30.6° F. So, each variety of a fruit like this should be considered separately.

It is possible for the temperature of a product to drop below its freezing point without freezing. In other words, ice crystals do not form. This is called supercooling. If this accidentally happens, it is advisable to raise the room temperature and avoid disturbing the commodity. Doors should be closed gently, and floors should not be jarred. Damage may be held down if the products warm

up without ice being formed in their tissues.

Mr. Whiteman used thermocouples and an electronic recording instrument to determine the freezing points. Samples were set up in a room held at 20° F. One thermocouple, 2 small wires joined at one end, was inserted at least 1/2 inch into each sample. Small samples like cranberries and grapes received special treatment. They were cut or chopped and placed in aluminum foil bundles.

The thermocouple wires were connected to the recorder in an unrefrigerated room. This instrument can handle 20 thermocouples. One thermocouple was placed at a constant 32° F. temperature as a continuous check on the instrument. So, as many as 19 thermocouples could be used for the individual specimens or composite bundles.

With the instrument registering the temperature of one sample every 30 seconds, the temperature of each specimen was recorded every 10 minutes.

The freezing point of the product was determined by studying the temperatures recorded on graph paper. As freezing begins, heat is released and the temperature of the sample rises. The rise is followed by a leveling off. The first constant temperature is usually taken to be the freezing point of the products.

Operating Fans in Stationary Cars

By J. M. Lutz

FRESH quality of highly perishable fruits and vegetables can be maintained at higher levels if the fans in refrigerated or heated cars are kept in operation while standing in rail yards or sidings.

Results of a marketing research project just reported by AMS show that auxiliary motors can be successfully used to operate built-in car fans when loaded cars are left standing. The fans are operated by the car wheels or electrically in transit.

One of the weak links in getting fruits and vegetables from the producer to the consumer in top quality has been the failure to operate car fans after arrival at terminal markets.

Fully or partly-loaded cars are frequently held on track for periods up to several days. Top layers of refrigerated commodities often warm up, or bottom layers get too cold and deteriorate in quality during the delay. Commodities in heated cars get too warm at the top of the cars.

Early tests conducted by AMS in cooperation with a private marketing firm indicated that narrow spreads in top and bottom temperatures could be maintained in standing cars of bananas by operating the fans with electric motors.

In tests with both refrigerated and heated cars loaded with pears, lettuce, and potatoes, good results were obtained in maintaining satisfactory temperatures. Refrigerated cars were tested in New York City yards, and two heated carloads of potatoes were tested at East Grand Forks, Minn.

Researchers feel that the lower top layer temperatures obtained by operating the car fans is of distinct value on such highly perishable items as

lettuce, strawberries, sweet cherries, and peaches, even if the cars are held on track only one day. Longer holding periods make the practice even more valuable.

In the tests with cars under heater service, slightly higher average bottom layer temperatures and lower top layer temperatures were obtained by fan operation while the cars were standing. This could prevent freezing injury at the bottom layer if the temperature were at a critical point.

With commodities easily damaged by high temperatures, the use of fans would be of substantial value in keeping top layer temperatures down. In the two potato tests, top layer temperatures were generally over 10 degrees and in some instances 20 degrees higher in cars with fans not running, as compared with fan-operated cars.

Operation of car fans is also desirable during cold weather for main-

taining higher bottom layer temperatures in loads of produce such as mature green tomatoes or sweet potatoes that are susceptible to chilling injury.

Results of the tests with floor-fan cars show that the fans at only one end of the car need to be operated to produce satisfactory results. This is not successful with bananas, probably because bananas are loaded in such a manner as to allow the air to by-pass the product.

In partly unloaded cars, with some of the floor rack area uncovered, the same situation might prevail. For this reason, bare floor racks should be covered, either with paper or packages of produce so as to force the air through the produce.

In the case of cars equipped with electric overhead fans, the fans at both ends of the car are operated, since one drive assembly operates all fans.

CHEWING AND SNUFF LOSING FAVOR WITH U.S. TOBACCO USERS

Pipe smoking, roll-your-own cigarettes, chewing and snuff are continuing to lose favor with tobacco users in the United States, according to AMS economists.

Output of manufactured tobacco for these secondary outlets dropped to new lows in the year ending June 30, 1957. Burley, dark-air-cured, and fire-cured were the principal types of leaf affected.

Use of tobacco in these secondary products has declined as the popularity of cigarettes has gained. A steady climb in consumer incomes also has influenced this change in preference.

Greatest production decline has come in tobacco for pipes and roll-your-own cigarettes. Last year, output sank to 69 million pounds, nearly

7 percent less than in 1955-56. A large part of this 5-million-pound drop was due to the widespread changeover from roll-your-owns. Use of roll-your-own cigarettes is today probably 40 percent lower than 5 years ago. Smoking tobacco produced for all uses is now only 70 percent of what it was 5 years ago.

Although consumption of chewing tobacco has declined steadily for many years, it has fallen off more sharply during the last 2 years. Output in 1956-57 stood at about 73 million pounds, down 5 percent from 1955-56.

Output of snuff last year totaled 36½ million pounds. Again, this figure is down 5 percent from the previous fiscal year. It is also the lowest since the mid-1930's.

J. M. Lutz is Assistant Head of the Quality Maintenance and Improvement Section, Biological Sciences Branch of AMS.

Retail Marketing Costs for Turkeys

By Earl H. Rinear

RETAIL margins for turkeys drop sharply during the Thanksgiving and Christmas season—the peak selling period for this popular bird.

According to a recent study by the Agricultural Marketing Service, 60 to 79 percent of the year's retail turkey sales are rung up in November and December. But since turkeys are often used by retailers as low-margin sales items during the holidays, the spread during these two months is much lower than during the rest of the year.

In fact, in November and December of 1954 in Washington, D.C., the spread in chainstores ranged from a flat zero to 3.8 cents a pound. In several instances chains actually sold turkeys for less than the independents in the area could buy them, and the chain margin averaged from 1 to 2 cents a pound.

Researchers, who also analyzed markets in Boston and Cincinnati, found the holiday price spread in chainstores in these cities ran a little higher. In 1955 it was 5 to 8½ cents in Boston and from 3 to 9½ cents in Cincinnati.

During the rest of the year, retail margins of chainstores for all three market areas were up to 3 to 14 cents a pound.

The three-city study of margins and retail practices for the turkey

industry also revealed that year-round promotion of turkey has a direct pay-off in sales.

Boston retailers, who maintained buyer interest through newspaper advertisements, flyers, and point-of-sale promotion, showed appreciably higher sales for the "out-of-season" months than did the other two cities.

Whether turkey is sold through chainstores or independent outlets also has impacts on the form in which the bird is sold as well as on promotion techniques used. Different areas show considerable variation in practices.

Independent stores did most of their promoting through posters in the stores and personal contact. Chains relied more heavily on newspaper advertisements.

These were some of the highlights of the margins and practices survey conducted by the AMS economists while gathering the facts on who gets what part of the money spent on turkey.

The farm-to-retail spread for ready-to-cook turkeys sold in Washington chainstores during the 1954 holiday season ranged from 10 to 13½ cents a pound. The marketing margin in Boston during the 1955 holiday was 15 to 19 cents a pound. In Cincinnati it was 11½ to 18 cents a pound.

The spread for ready-to-cook turkey sold in independent stores was sharply higher in all three cities because of higher wholesale and retail charges. But the independents also

slashed their margins drastically for the Thanksgiving and Christmas trade. The average retail spread for all 3 areas was 2 to 12 cents a pound for ice-packed turkey and 0 to 10 cents a pound for frozen turkey.

Processing took about 7 cents a pound of the total farm-to-retail spread for ready-to-cook turkeys shipped to the Boston markets in 1955. Processing costs for Washington in 1954 were almost identical. Plant labor made up the biggest part of these costs (about 2 cents a pound). Most differences in processing costs were due to wage rates which varied widely.

The wholesaler's share of the turkey money averaged about 2 cents a pound in Washington for frozen ready-to-cook birds sold during the holiday season. This margin was slightly less for birds sold to retail stores than it was for the restaurant and hotel trade.

In Cincinnati, the size of the bird became a margin factor. Here, wholesalers had their highest gross margins on turkeys weighing less than 12 pounds.

Despite increasing year-round promotion, November and December remain the big months for turkey sales. Some wholesalers feel that higher retail margins during the holiday season would make it more profitable to handle turkeys during the rest of the year. Others think that low holiday margins should be continued in the other months.

Earl H. Rinear is an agricultural economist in the Market Organization and Costs Branch, AMS.